



**Rules and
Regulations for
the Classification
of Ships, July 2007**

Notice No. 2

Effective Date of Latest
Amendments:

See page 1

Issue date: January 2008

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RULES AND REGULATIONS FOR THE CLASSIFICATION OF SHIPS, *July 2007*

Notice No. 2

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Ships, July 2007*. The amendments are effective on the dates shown:

Part	Chapter	Section	Effective date
1	1	7	1 January 2008
1	2	1, 3	1 July 2007
1	3	1, 2, 3, 6, 7, 8	1 January 2008
1	3	6, 7, 8, 9	1 July 2008
1	3	9	1 October 2007
4	4	8	1 January 2008

It will be noted that the amendments also include corrigenda, which are effective from the date of this Notice.

The *Rules and Regulations for the Classification of Ships, July 2007* are to be read in conjunction with this Notice No. 2. The status of the Rules is now:

Rules for Ships	Effective date:	July 2007
Notice No. 1	Effective dates:	1 August 2007, 1 January 2008 & Corrigenda
Notice No. 2	Effective dates:	1 July 2007, 1 October 2007, 1 January 2008 & July 2008

Part 1

This page need to be inserted at the beginning of the Part 1 book after the inside front cover.

CLASSIFICATION OF SHIPS

Rules and Regulations

July 2007

UPDATE NOTES

1. The July 2007 version of these Rules and Regulations incorporates those changes contained in the Notices to the July 2006 version.
2. Changes approved by the Board and the General Committee in 2006/2007.
3. Editorial amendments have also been incorporated.
4. The July 2007 version of these Rules and Regulations supersedes the July 2006 version.

CLASSIFICATION

The following explanatory note is offered to assist those concerned in the application of these Rules and Regulations.

Explanatory Note

Ship classification may be regarded as the development and worldwide implementation of published Rules and Regulations which, in conjunction with proper care and conduct on the part of the Owner and operator, will provide for:

1. the structural strength of (and where necessary the watertight integrity of) all essential parts of the hull and its appendages;
2. the safety and reliability of the propulsion and steering systems; and
3. the effectiveness of those other features and auxiliary systems which have been built into the ship in order to establish and maintain basic conditions on board whereby appropriate cargoes and personnel can be safely carried whilst the ship is at sea, at anchor, or moored in harbour.

Lloyd's Register (LR) maintains these provisions by way of the periodical visits by its Surveyors to the ship as defined in the Regulations in order to ascertain that the vessel currently complies with those Rules and Regulations. Should significant defects become apparent or damages be sustained between the relevant visits by the Surveyors, the Owner and operator are required to inform LR without delay. Similarly any modification which would affect Class must receive prior approval by LR.

A ship is said to be in Class when the Rules and Regulations which pertain to it have, in the opinion of LR, been complied with, or when special dispensation from compliance has been granted by LR.

It should be appreciated that, in general, classification Rules and Regulations do not cover such matters as the ship's floatational stability, life-saving appliances, pollution prevention arrangements, and structural fire protection, detection and extinction arrangements where these are covered by the *International Convention for the Safety of Life at Sea, 1974, its Protocol of 1978*, and the amendments thereto, nor do they protect personnel on board from dangers connected with their own actions or movement around the ship. This is because the handling of these aspects is the prerogative of the National Authority with which the ship is registered. A great many of these authorities, however, delegate such responsibilities to the Classification Societies who then undertake them in accordance with agreed procedures.

Part 1, Chapter 1

General Regulations

Effective date 1 January 2008

■ Section 7

7.1 The Committee has power to adopt, and publish as deemed necessary, Rules relating to classification and has (in relation thereto) provided the following:

(Part only shown)

- (b) Except in the case of a special directive by the Committee, or where changes necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies are concerned, no new Rule or alteration in any existing Rule is to be applied compulsorily after the date on which the contract between the ship builder and ship owner for construction of the ship has been signed, nor within six months of its adoption. The date of 'contract for construction' of a ship is the date on which the contract to build the ship is signed between the prospective ship owner and the ship builder. This date and the construction number (i.e. hull numbers) of all the vessels included in the contract are to be declared to the Committee by the party applying for the assignment of class to a newbuilding. The date of 'contract for construction' of a series of sister ships, including specified optional ships for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective ship owner and the ship builder. In this section a 'series of sister ships' is a series of ships built to the same approved plans for classification purposes, under a single contract for construction. The optional ships will be considered part of the same series of sister ships if the option is exercised not later than 1 year after the contract to build the series was signed. If a contract for construction is later amended to include additional ships or additional options, the date of 'contract for construction' for such ships is the date on which the amendment to the contract is signed between the prospective ship owner and the ship builder. The amendment to the contract is to be considered as a 'new contract'. If a contract for construction is amended to change the ship type, the date of 'contract for construction' of this modified vessel, or vessels, is the date on which the revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder. Where it is desired to use existing approved ship or machinery plans for a new contract, written application is to be made to the Committee.

NOTE

Sister ships may have minor design alterations provided that such alterations do not affect matters related to classification.

Part 1, Chapter 2

Classification Regulations

Effective date 1 July 2007

■ Section 1

Conditions for classification

1.1 General

1.1.9 For ships, the arrangements and equipment of which are required to comply with the requirements of the:

- Load Line Convention;
- International Convention for the Safety of Life at Sea, 1974 and its Protocol of 1978;
- International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto;
- International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code);
- International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code);

and applicable Amendments thereto, the Committee requires the applicable Convention Certificates to be issued by a National Administration, or by LR, or by an IACS Member when so authorized. Safety Management Certificates in accordance with the provisions of the International Safety Management Code (ISM Code) may be issued by an organization complying with IMO Resolution A.739(18) and authorized by the National Authority with which the ship is registered. Cargo Ship Radio Certificates may be issued by an organization authorized by the National Authority with which the ship is registered. In the case of dual-classed ships, Convention Certificates may be issued by the other Society with which the ship is classed provided this is recognized in a formal Dual Class Agreement with LR and provided the other Society is also authorized by the National Authority Administration. In the event of a National Administration withdrawing any ship's Convention Certificate (referred to in this section) then the committee may suspend the ship's class. However if a ship is removed from the National Administration's Registry then the Committee will suspend the ship's class. In the event of ISM Code certification being withdrawn from a ship or Operator then the Committee will suspend the ship's class.

Part 1, Chapters 2 & 3

■ Section 3 Surveys – General

3.8 Withdrawal/Suspension of class

3.8.5 When, in accordance with 3.4.3 of the Regulations, a condition of class is imposed, this will be assigned a due date for completion and the ship's class ~~will be subject to a suspension procedure~~ may be suspended if the condition of class is not dealt with, or postponed by agreement, by the due date.

3.8.6 When it is found, from the reported condition of the hull ~~or equipment or machinery or arrangements~~ of a ship, that an Owner has failed to comply with Regulations 1.1.5, 1.1.9, 3.4.1 or 3.4.5, the class will be ~~liable to be~~ suspended or withdrawn, at the discretion of the Committee, and a corresponding notation assigned. When it is considered that an Owner's failure to comply with these requirements is sufficiently serious, the suspension or withdrawal of class may be extended to include other ships controlled by the same Owner, at the discretion of the Committee.

3.8.7 When the Committee is satisfied that a ~~any~~ ship ~~proceeds~~ proceeded to sea with less freeboard than that approved by the Committee, or ~~when~~ that the freeboard marks are placed higher on the sides of the ship than the position assigned or approved by the Committee, or, in cases of ships where freeboards are not assigned, the draught is greater than that approved by the Committee, the ship's class will be ~~liable to be~~ withdrawn or suspended in relation to the above voyage(s) concerned.

3.8.8 When the Committee is satisfied ~~it is found~~ that a specialized ship ~~is being~~ has been operated in a manner contrary to that agreed at the time of classification, or is being operated in environmental conditions which are more onerous or in areas other than those agreed by the Committee, the ship's class will be ~~liable to be automatically~~ withdrawn or suspended in relation to those operations.

Part 1, Chapter 3 Periodical Survey Regulations

Effective date 1 January 2008

■ Section 1 General

1.3 Unscheduled surveys

1.3.1 In the event that Lloyd's Register (hereinafter referred to as LR) has cause to believe that its Rules and Regulations are not being complied with, LR reserves the right to perform unscheduled surveys of the hull or machinery and the applicable statutory requirements whether or not the appropriate statutory certificate has been issued by LR.

1.5 Definitions

1.5.9 **Spaces** are separate compartments such as holds ~~and~~, tanks, cofferdams and void spaces bounding cargo holds, decks and the outer hull.

1.5.19 A **Prompt and Thorough Repair** is a permanent repair completed at the time of survey to the satisfaction of the Surveyor, therein removing the need for the imposition of any associated condition of class ~~or recommendation~~.

1.6 Preparation for survey and means of access

1.6.1 In order to enable the attending Surveyor(s) to carry out the survey, provisions for proper and safe access are to be agreed between the Owner and LR. Tanks and spaces are to be safe for access, be gas free and properly ventilated. Prior to entering a tank, void or enclosed space, it is to be verified that the atmosphere in that space is free from hazardous gas and contains sufficient oxygen ~~i.e. gas freed, ventilated and illuminated~~.

1.6.2 In preparation for survey, thickness measurements and to allow for a thorough examination, all spaces are to be cleaned including removal from surfaces of all loose accumulated corrosion scale. Spaces are to be sufficiently clean and free from water, scale, dirt, oil residues, etc., to reveal corrosion, deformation, fractures, damages or other structural deterioration, as well as the condition of the protective coating. However, those areas of structure whose renewal has already been decided by the owner need only be cleaned and descaled to the extent necessary to determine the limits of renewed areas.

1.6.4 Means are to be provided to enable the Surveyor to examine the structure in a safe and practical way. Where the provisions of safety and required access are determined by the Surveyor not to be adequate, then the survey of the space(s) involved is not to proceed.

1.6.5 For surveys, including close-up survey where applicable, in cargo spaces and ballast tanks, one or more of the following means of access, is to be provided:

- (a) Permanent staging and passages through structures.
- (b) Temporary staging and passages through structures.
- (c) Lifts and movable platforms.
- (d) Portable ladders, see Note.
- ~~(e)~~ (e) Boats or rafts.
- ~~(f)~~ (f) Other equivalent means.

NOTE

Portable ladders may be used, at the discretion of the Surveyor, for survey of the hull structure of single skin bulk carriers, except for the close-up survey of cargo hold shell frames, see 1.6.6 and 1.6.7.

(Part only shown)

1.6.7 For close-up surveys of the cargo hold shell frames of single skin bulk carriers with a deadweight equal to or greater than 100,000 tonnes the use of portable ladders is not accepted and one or more of the following means of access, is to be provided:

- (c) Notwithstanding the above requirements, for single skin bulk carriers greater than 10 years old, at Annual Survey the use of a portable ladder fitted with a mechanical device to secure the upper end of the ladder is acceptable for when the close-up survey of cargo hold shell frames is required.

(Part only shown)

1.6.8 Survey at sea or anchorage may be undertaken when the Surveyor is fully satisfied with the necessary assistance from the personnel onboard and provided the foregoing preparations for survey, as applicable, have been met. In addition, the following conditions and limitations are to be applied ~~not~~:

- (a) A communication system is to be arranged between the survey party in the tank and the responsible officer on deck. This system must include the personnel in charge of ballast pump handling if boats or rafts are to be used.
- ~~(e)~~ (b) Surveys of tanks by means of boats or rafts are to be agreed with ~~is at the sole discretion of~~ the attending Surveyor, who is to take into account the safety arrangements provided, including weather forecasting and ship response under foreseeable sea conditions and provided the expected rise of water within the tank does not exceed 0,25 m. ~~Appropriate life jackets are to be available for all participants. The boats or rafts are to have satisfactory residual buoyancy and stability even if one chamber is ruptured. A safety checklist is also to be provided. An oxygen-meter, breathing apparatus, lifeline and whistles are to be at hand during the survey. For oil tankers and chemical tankers, an explosimeter is also to be provided.~~

Where it has been agreed to use boats or rafts when carrying out close-up survey, the following conditions are to be observed:

- (i) Only rough duty, inflatable rafts or boats, having satisfactory residual buoyancy and stability even if one chamber is ruptured, are to be used.
- (ii) The boat or raft is to be tethered to the access ladder and an additional person is to be stationed down the access ladder with a clear view of the boat or raft.
- (iii) Appropriate lifejackets are to be available for all participants.

- (iv) The surface of water in the tank is to be calm and the water level either stationary or falling. On no account is the level of the water to be rising while the boat or raft is in use.
- (v) The tank or space must contain clean ballast water only. Even a thin sheen of oil on the water is not acceptable.
- (vi) At no time is the water level to be allowed to be within 1 m of the deepest under deck web face flat so that the survey team is not isolated from a direct escape route to the tank hatch. Filling to levels above the deck transverses is only to be contemplated if a deck access manhole is fitted and open in the bay being examined, so that an escape route for the survey party is available at all times. Other effective means of escape to the deck may be considered.
- (vii) If the tanks (or spaces) are connected by a common venting system, or Inert Gas system, the tank in which the boat or raft is to be used is to be isolated to prevent a transfer of gas from other tanks (or spaces).

- ~~(b) A communication system is to be arranged between the survey party in the tank and the responsible officer on deck. This system must include the personnel in charge of ballast pump handling if boats or rafts are to be used.~~

1.6.10 ~~A survey planning meeting is to be held prior to the commencement of Intermediate Survey and Special Survey. An oxygen-meter, breathing apparatus, lifeline, riding belts with rope and hook and whistles together with instructions and guidelines on their use are to be made available during the survey. For oil tankers and chemical tankers, an explosimeter is to be provided. A safety checklist is also to be provided.~~

1.6.11 For ships assigned the quotation **ESP**, the owner is to respond to a Survey Planning Questionnaire and to prepare a Survey Programme, see 6.3, 7.3 and 8.3. ~~In such cases, the following requirements are applicable:~~

- (a) The Survey Planning Questionnaire is to be submitted to LR prior to the preparation of ~~the~~ a Survey Programme. ~~This~~ The response to the Questionnaire is to include information on access provisions for close-up Surveys and thickness measurements; cargo history; the results of inspections carried out by the Owner; a list of reports of Port State Control Inspection containing hull structural deficiencies; a list of Safety Management System non-conformities related to hull maintenance and details of the thickness measurement company.
- (b) The Survey Programme is to be submitted prior to the commencement of any part of the Intermediate Survey on ships over 10 years of age and Special Survey. This is to be in a written format and submitted to LR at least six months in advance of the survey. The Survey Programme at Intermediate Survey may consist of the Survey Programme agreed for the previous Special Survey supplemented by the Executive Hull Summary of that Special Survey and later relevant survey reports. ~~The survey programme is to be worked out taking into account any amendments to the survey requirements implemented after the previous Special Survey. The survey will not commence until a Survey Programme has been agreed.~~

- (c) The Survey Programme is to be worked out taking into account any amendments to the survey requirements implemented after the previous Special Survey.
- (d) Further information on the Survey Planning Questionnaire and Survey Programme can be found in the *ESP guidance booklets* that have been prepared by LR and are available on the ClassDirect Live website.
- (e) Prior to the commencement of any part of the Intermediate Survey and Special Survey, a survey planning meeting is to be held between the attending Surveyor(s), the Owner's representative in attendance, the thickness measurement company operator (as applicable) and the Master of the ship for the purpose of ascertaining that all the arrangements envisaged in the Survey Programme are in place, so as to ensure the safe and efficient conduct of the survey to be carried out. The following is an indicative list of items that are to be addressed in the meeting:
 - (i) Schedule of the ship (i.e. the voyage, docking and undocking manoeuvres, periods alongside, cargo and ballast operations, etc.).
 - (ii) Provisions and arrangements for thickness measurements (i.e. access, cleaning/de-scaling, illumination, ventilation, personal safety).
 - (iii) Extent of the thickness measurements.
 - (iv) Permissible diminution levels.
 - (v) Extent of close-up survey and thickness measurement considering the coating condition and suspect areas/areas of substantial corrosion.
 - (vi) Execution of thickness measurements.
 - (vii) Taking representative readings in general and where uneven corrosion/pitting is found.
 - (viii) Mapping of areas of substantial corrosion.
 - (ix) Communication between attending surveyor(s), the thickness measurement company operator(s) and Owner's representative(s) concerning findings.
- (f) Proper preparation and close co-operation between the attending Surveyor(s) and the Owner's representative on board prior to and during the survey are an essential part in the safe and efficient conduct of the survey. During the survey on board safety meetings are to be held regularly.

1.7 Thickness measurement at surveys

1.7.2 ~~Further to the requirements of 1.6.8 a~~ A survey planning meeting is to be held between the attending Surveyor(s), the Owner's representative and the thickness measurement firm's representative, so as to ensure the safe and efficient execution of the surveys and thickness measurements to be carried out on board.

1.7.12 In all cases the extent of the thickness measurements is to be sufficient to represent the actual average condition.

Section 2

Annual Surveys – Hull and machinery requirements

2.2 Annual Surveys

2.2.2 The following requirements for hatch covers and coamings are applicable:

- (a) The Surveyor is to obtain confirmation that no unapproved changes have been made to the hatch covers, hatch coamings and their securing and sealing devices since the previous survey:
- (b) Mechanically-operated steel covers are to be tested to confirm the satisfactory condition of:
 - hatch covers;
 - tightness devices of longitudinal, transverse and intermediate cross junctions (gaskets, gasket lips, compression bars, drainage channels);
 - clamping devices, retaining bars, cleating;
 - chain or rope pulleys;
 - guides;
 - guide rails and track wheels;
 - stoppers, etc;
 - wires, chains, gypsies, tensioning devices;
 - hydraulic system essential to closing and securing;
 - safety locks and retaining devices.
- (c) Cargo hatch covers of the portable type (i.e. wood or steel pontoons) are to be examined to confirm the satisfactory condition where applicable, of:
 - wooden covers and portable beams, carriers or sockets for the portable beam, and their securing devices;
 - steel pontoons;
 - tarpaulins;
 - cleats, battens and wedges;
 - hatch securing bars and their securing devices;
 - loading pads/bars and the side plate edge;
 - guide plates and chocks;
 - compression bars, drainage channels and drain pipes (if any).
- (d) The Surveyor is to confirm the satisfactory condition of hatch coaming plating and their stiffeners, where applicable.
- (e) Where the cargo hatch securing system does not function properly, repairs are to be carried out under the supervision of the Surveyor.
- (f) Where considered necessary by the Surveyor, the effectiveness of sealing arrangements may be proved by hose or chalk testing supplemented by dimensional measurements of seal compressing components.
- (g) For **general dry cargo ships** and **bulk carriers**, in addition to the above, the steel cargo hatch covers, coamings and stiffeners are to be subjected to a close-up examination. the following requirements are also applicable:
 - (i) The steel cargo hatch covers, coamings and stiffeners are to be subjected to close-up survey.

- (ii) A thorough survey of cargo hatch covers and coamings is only possible by their examination in an open and closed position, including verification of the proper opening and closing operation. As such, the hatch cover sets located in the forward 25 per cent of the ship's length and at least one other additional set are to be surveyed open, closed and in operation to the full extent on each direction in accordance with 2.2.1(b). When selecting hatch cover sets it should be ensured that all sets are subject to survey at least once in every five-year Special Survey period.
- (iii) The closing of the covers is to include the fastening of all peripheral and cross joint cleats or other securing devices, with particular attention to be paid to the condition of the hatch covers located in the forward 25 per cent of the ship's length, where sea loads are normally greatest.
- (iv) Should there be difficulty in operating and securing hatch covers, then additional sets are to be tested in operation at the discretion of the Surveyor.

2.2.13 The main propulsion, essential auxiliary and emergency generators including safety arrangements, controls and foundations are to be generally examined. Surveyors are to confirm that Periodical Surveys of engines have been carried out as required by the Rules and that safety devices have been tested.

Existing paragraphs 2.2.13 to 2.2.16 are to be renumbered 2.2.14 to 2.2.17.

~~2.2.16 For ships having UMS or CCS notation, a General Examination of automation equipment is to be carried out. Satisfactory operation of safety devices and control systems is to be verified.~~

2.2.17 For ships fitted with automation equipment for main propulsion, essential auxiliary and emergency machinery, a general examination of the equipment and arrangements is to be carried out. Records of changes to the hardware and software used for control and monitoring systems for propelling and essential auxiliary machinery since the original issue (and their identification) are to be reviewed by the attending Surveyor. Satisfactory operation of the safety devices and control systems is to be verified.

2.2.18 For ships fitted with an electronically controlled engine for main propulsion, essential auxiliary and emergency power purposes the following is to be carried out to the satisfaction of the Surveyor:

- (a) A general examination of the electronic control system and associated parts.
- (b) Verification of evidence of satisfactory operation of the engine and where possible this is to include a running test under load.
- (c) Verification of satisfactory operation of the safety devices and control systems.
- (d) Verification that any changes to hardware and software for control of the engine have been submitted and approved by LR.
- (e) Verification that any changes to control and monitoring arrangements that affect the operation of the engine have been submitted and approved by LR.

- (f) Verification that where changes have been carried out, there is evidence of acceptance tests and trials for Programmable Electronic Systems which include confirmation of software life cycle activities appropriate to the stage in the system's life cycle at the time of system examination.
- (g) Identification and verification that the key monitoring parameters/sensors are in working order.

2.2.19 Dead ship starting arrangements for bringing machinery into operation without external aid are to be tested to the Surveyor's satisfaction.

Existing paragraphs 2.2.17 to 2.2.32 are to be renumbered 2.2.20 to 2.2.35.

(Part only shown)

2.2.22 For **oil tankers** (including ore/bulk/oil ships and ore/oil ships), in addition to the applicable requirements of 2.2.1 to 2.2.21, the following are to be dealt with where applicable:

- ~~(p) For single hull oil tankers, ballast tanks adjacent to (i.e. with a common plane boundary) a cargo tank with any means of heating are to be examined. Thickness measurement is to be carried out where considered necessary by the Surveyor. Special consideration may be given by the Surveyor to those tanks where the coatings was found in GOOD condition, as defined in 1.5, at the previous Intermediate or Special Survey.~~
- (p) For ballast tanks, in areas where substantial corrosion, as defined in 1.5, has been noted then additional measurements are to be carried out in accordance with Tables 3.7.7 to 3.7.15, as applicable. The survey will not be considered complete until these additional thickness measurements have been carried out.
- (q) Verification that any special arrangements made for bow or stern loading and unloading are in good condition.

Part 1, Chapter 3

Table 3.2.1 Bulk Carriers – Annual Surveys

Ships less than 10 years old	Ships between 10 and 15 years old	Ships greater than 15 years old
<p>An Overall Survey of the forward cargo hold and an aft cargo hold on single skin ships</p> <p>See Note 1</p>	<p>(a) Overall Survey of</p> <p>(i) all cargo holds on single skin ships;</p> <p>(ii) two selected cargo holds on double skin ships;</p> <p>(b) Close-up Survey of at least 25 per cent of the cargo hold side shell frames, their lower end attachments and adjacent shell plating in the forward cargo hold on single skin ships.</p> <p>(c) Examination of all piping and penetrations in cargo holds including overboard piping.</p> <p>See Notes 2, 3, 4 and 5.</p>	<p>(a) Overall Survey of all cargo holds;</p> <p>(b) Close-up Survey of at least 25 per cent of the cargo hold side shell frames, their lower end attachments and adjacent shell plating in the forward cargo hold and one other selected cargo hold on single skin ships;</p> <p>(c) Examination of all piping and penetrations in cargo holds including overboard piping.</p> <p>See Notes 2, 3, 4 and 5.</p>
<p>NOTES</p> <p>The requirements in this Table apply to both single skin and double skin ships, unless stated otherwise.</p> <p>1. Where the Survey reveals the need for remedial measures, then the Survey is to be extended to include all cargo holds.</p> <p>2. Close-up Survey is required within the area of the lower one-third of the length of the cargo hold side shell frames.</p> <p>3. Where the Survey reveals the need for remedial measures, the Survey is to be extended to include a Close-up Survey of all of the cargo hold side shell frames and adjacent shell plating of that cargo hold, as well as a Close-up Survey of sufficient extent of all remaining cargo holds.</p> <p>4. When considered necessary by the Surveyor, thickness measurement is to be carried out. Where the results of thickness measurement indicate substantial corrosion, the extent of thickness measurement should be in accordance with Section 6, Tables 3.6.4, 3.6.5, 3.6.6, 3.6.7, 3.6.8 and 3.6.9 as applicable. The survey will not be considered complete until these additional thickness measurements have been carried out.</p> <p>5. Where protective coatings are found in good condition, as defined in 1.5, the extent of the Close-up Survey and thickness measurement may be specially considered. Prior to any coating or recoating of cargo holds, scantlings are to be confirmed by thickness measurement with the Surveyor in attendance.</p>		

Section 3

Intermediate Surveys – Hull and machinery requirements

3.2 Intermediate Surveys

3.2.4 For **oil tankers** (including ore/oil and ore/bulk/oil ships) and **chemical tankers**, salt-water ballast tanks are to be examined and gauged as necessary at Annual Surveys where:

- (a) A hard protective coating has not been applied from the time of construction; or
- (b) A soft coating has been applied; or
- (c) Substantial corrosion is found within the tank, or
- (d) The hard protective coating is found to be in less than GOOD condition, as defined in 1.5, and the hard protective coating is not repaired to the satisfaction of the Surveyor; or
- (e) ~~For single hull oil tankers, the tank has a common plane boundary with a cargo tank with any means of heating.~~

Section 6

Special Survey – Bulk carriers – Hull requirements

6.2 Documentation

6.2.1 The Owner is to obtain, supply and maintain documentation on board as follows:

- (a) A survey file comprising reports of structural surveys, thickness measurement and executive hull summary in accordance with IMO Resolution A.744(18).
- (b) Supporting documentation consisting of:
 - (i) Main structural plans of cargo holds and ballast tanks.
 - (ii) Previous repair history.
 - (iii) Cargo and ballast history.
 - (iv) Records of inspections by ship's personnel with reference to structural deterioration in general, leakages in bulkheads and piping and the condition of the corrosion prevention systems, if any.
 - ~~(iv)~~ ~~Reports on structural defects/deterioration in general.~~
 - ~~(v)~~ ~~Reports on leakage in bulkheads and piping systems.~~
 - ~~(vi)~~ ~~Condition of corrosion prevention system, if any.~~
 - ~~(viii)~~ (v) Information Any other information that may help to identify critical structural areas and/or suspect areas requiring inspection.
 - ~~(viii)~~ (vi) Survey Programme as required by 6.3.

The complete documentation in 6.2.1 is to be readily available for examination by the Surveyor and should be used as a basis for survey.

6.3 Planning for survey

6.3.2 Prior to the development of the Survey Programme, a Survey Planning Questionnaire is to be completed and submitted by the Owner, see 4.6.9 1.6.11.

Effective date 1 July 2008

6.6 Close-up Survey

6.6.1 The minimum requirements for Close-up Survey are given in Tables 3.6.1, 3.6.2 and 3.6.3 as applicable.

(Part only shown)

Table 3.6.2 Close-up Survey – Double skin bulk carriers (excluding ore carriers)

6.7 Thickness measurement

6.7.1 The minimum requirements for thickness measurements are given in Table 3.6.2 3.6.4, see also 5.4 5.6.

6.7.2 In areas where substantial corrosion, as defined in 1.5, has been noted then additional measurements are to be carried out, as applicable, in accordance with Tables 3.6.4, 3.6.5, 3.6.6, 3.6.7, 3.6.8, 3.6.9 and 3.6.9 3.6.10 to determine the full extent of the corrosion pattern. The survey will not be considered complete until these additional thickness measurements have been carried out.

Table 3.6.3 Close-up Survey – Ore carriers

Special Survey I (Ships 5 years old)	Special Survey II (Ships 10 years old)	Special Survey III (Ships 15 years old)	Special Survey IV (Ships 20 years old and over)
(1) 1 web frame ring complete including adjacent structural members in a water ballast wing tank. (2) 1 transverse bulkhead lower part including girder system and adjacent structural members in a ballast tank. (3) 2 selected cargo hold transverse bulkheads, including internal structure of upper and lower stools where fitted. see Note 2. (4) All cargo hold hatch covers and coamings (plating and stiffeners).	(1) All web frame rings complete including adjacent structural members in a water ballast wing tank. (2) 1 deck transverse including adjacent structural members in each remaining water ballast tank. (3) Forward and aft transverse bulkheads including girder system and adjacent structural members in a ballast wing tank. (4) 1 transverse bulkhead lower part including girder system and adjacent structural members in each remaining ballast tank. (5) 1 transverse bulkhead in each cargo hold, including internal structure of upper and lower stools where fitted, see Note 2. (6) All cargo hold hatch covers and coamings (plating and stiffeners). (7) All deck plating and under deck structure inside line of hatch openings between all cargo hold hatches.	(1) All web frame rings complete including adjacent structural members in each water ballast tank. (2) All transverse bulkheads including girder system and adjacent structural members in each ballast tank. (3) 1 web frame ring complete including adjacent structural members in each wing void space. (4) Additional web frame rings including adjacent structural members in void spaces as deemed necessary by the Surveyor. (5) All cargo hold transverse bulkheads, including internal structure of upper and lower stools where fitted, see Note 2. (6) All cargo hold hatch covers and coamings (plating and stiffeners). (7) All deck plating and under deck structure inside line of hatch openings between all cargo hold hatches	(1) All web frame rings complete including adjacent structural members in each water ballast tank. (2) All transverse bulkheads including girder system and adjacent structural members in each ballast tank. (3) 1 web frame ring complete including adjacent structural members in each wing void space. (4) Additional web frame rings including adjacent structural members in void spaces as deemed necessary by the Surveyor. (5) All cargo hold transverse bulkheads, including internal structure of upper and lower stools where fitted, see Note 2. (6) All cargo hold hatch covers and coamings (plating and stiffeners). (7) All deck plating and under deck structure inside line of hatch openings between all cargo hold hatches.

NOTES

1. Ballast tank includes peak tanks.

2. Close-up Survey of transverse bulkheads to be carried out at four levels:

- | | |
|-----------|--|
| Level (a) | Immediately above the inner bottom and immediately above the line of gussets (if fitted) and shedders for ships without lower stool. |
| Level (b) | Immediately above and below the lower stool shelf plate (for those ships fitted with lower stools), and immediately above the line of the shedder plates. |
| Level (c) | About mid-height of the bulkhead. |
| Level (d) | Immediately below the upper deck plating and immediately adjacent to the upper wing tank and immediately below the upper stool shelf plate for those ships fitted with upper stools, or immediately below the topside tanks. |

Part 1, Chapter 3

Table 3.6.3 3.6.4 Thickness measurement – Single skin and double skin bulk carriers (Part only shown)

Special Survey I (Ships 5 years old)	Special Survey III (Ships 15 years old)	Special Survey IV and subsequent (Ships 20 years old and over)
(1) Measurement, for general assessment and recording of corrosion pattern, of those structural members subject to Close-up Survey in accordance with Table 3.6.1, Table 3.6.2 or Table 3.6.2 3.6.3.	(1) Within the cargo length area: (a) Each deck plate outside line of cargo hatch openings. (b) 2 transverse sections, outside line of cargo hatch openings. (A minimum of 1 of the above transverse sections is to be within 0,5L amidships). (2) Measurement, for general assessment and recording of corrosion pattern, of those structural members subject to Close-up Survey in accordance with Table 3.6.1, Table 3.6.2 or Table 3.6.2 3.6.3.	(1) Within the cargo length area: (a) Each deck plate outside line of cargo hatch openings. (b) 3 transverse sections, outside line of cargo hatch openings. (A minimum of 2 of the above transverse sections is to be within 0,5L amidships). (c) Each bottom plate. (2) Measurement, for general assessment and recording of corrosion pattern, of those structural members subject to Close-up Survey in accordance with Table 3.6.1, Table 3.6.2 or Table 3.6.2 3.6.3.
Special Survey II (Ships 10 years old)		
(1) Within the cargo length area: (a) 2 sections of deck plating outside line of cargo hatch openings. (2) Measurement, for general assessment and recording of corrosion pattern, of those structural members subject to Close-up Survey in accordance with Table 3.6.1, Table 3.6.2 or Table 3.6.2 3.6.3. (3) Wind and water strakes in way of the transverse sections considered in item (1). (4) Selected wind and water strakes outside the cargo length area. (4) (5) Cargo hold shell frames on single skin ships, see Note 5. (5) (6) Critical areas, as required by the Surveyor.	(3) All wind and water strakes within the cargo length area. (4) Selected wind and water strakes outside the cargo length area. (5) All cargo hatch covers and coamings (plating and stiffeners). (6) All transverse webs with associated plating and longitudinals, and the transverse bulkhead complete in the fore peak tank see Notes 1 and 3. (7) The aft bulkhead of the forward cargo hold on single skin ships (see Note 4). (8) Cargo hold shell frames on single skin ships, see Note 5. (9) Critical areas, as required by the Surveyor.	(3) All wind and water strakes over the full length of the ship, port and starboard. (4) All cargo hatch covers and coamings (plating and stiffeners). (5) Remaining exposed main deck plates not considered in item (1) and representative exposed superstructure deck plating (i.e. poop, bridge and forecastle deck). (6) All transverse webs with associated plating and longitudinals, and the transverse bulkhead complete in the fore peak tank and aft peak tank, see Notes 1 and 3. (7) All keel plates outside the cargo length area. Also additional bottom plates in way of cofferdams. Machinery space and aft end of tanks. (8) Plating of seachests. Also side shell plating in way of overboard discharges, as considered necessary by the Surveyor. (9) The aft bulkhead of the forward cargo hold on single skin ships (see Note 4). (10) Cargo hold shell frames on single skin ships, see Note 5. (11) Critical areas, as required by the Surveyor.

Table 3.6.4 3.6.5 Thickness measurement – Single skin bulk carriers – Shell plating and stiffening, with substantial corrosion

Table 3.6.5 3.6.6 Thickness measurement – Single skin bulk carriers – Double bottom and hopper structure, with substantial corrosion

Table 3.6.6 3.6.7 Thickness measurement – Single skin and double skin bulk carriers – Transverse bulkheads in cargo holds, with substantial corrosion

Table 3.6.7 3.6.8 Thickness measurement – Single skin and double skin bulk carriers – Deck structure including cross strips, main cargo hatchways, hatch covers, coamings and topside tanks, with substantial corrosion

Table 3.6.8 3.6.9 Thickness measurement – Double skin bulk carriers – Bottom, inner bottom and hopper structure, with substantial corrosion

Table 3.6.9 3.6.10 Thickness measurement – Double skin bulk carriers – Double side space structure (including wing void spaces of ore carriers) ~~ballast tank structure~~, with substantial corrosion

Section 7

Special Survey – Oil tankers (including ore/oil ships and ore/bulk/oil ships) – Hull requirements

Effective date 1 January 2008

7.2 Documentation

7.2.1 The Owner is to obtain, supply and maintain documentation on board as follows:

- (a) A survey file comprising reports of structural surveys, thickness measurement and executive hull summary in accordance with IMO Resolution A.744(18).
- (b) Supporting documentation consisting of:
 - (i) Main structural plans of cargo tanks/cargo holds and ballast tanks.
 - (ii) Previous repair history.
 - (iii) Cargo and ballast history.
 - ~~(iv) Reports on structural defects/deterioration in general.~~
 - ~~(v) Reports on leakage in bulkheads and piping systems.~~
 - ~~(vi) Condition of corrosion prevention system, if any.~~
 - (iv) Records of inspections by ship's personnel with reference to structural deterioration in general, leakages in bulkheads and piping and the condition of the corrosion prevention systems, if any.
 - ~~(vii)(v) Extent of use of inert gas plant and tank cleaning procedures when forming part of approved corrosion control system.~~
 - ~~(viii)(vi) Information Any other information that may help to identify critical structural areas and/or suspect areas requiring inspection.~~
 - ~~(ix)(vii) Survey Programme as required by 7.3.~~

The complete documentation in 7.2.1 is to be readily available for examination by the Surveyor and should be used as a basis for survey.

7.3 Planning for survey

7.3.2 Prior to the development of the Survey Programme a Survey Planning Questionnaire is to be completed and submitted by the Owner, see 1.6.9 1.6.11.

Effective date 1 July 2008

7.7 Thickness measurement

7.7.1 The minimum requirements for thickness measurements are given in Table 3.7.6 (Single and double hull oil tankers, including ore/oil ships and ore/bulk/oil ships), see also 5.4 5.6.

Effective date 1 January 2008

Section 8

Special Survey – Chemical tankers – Hull requirements

8.2 Documentation

8.2.1 The Owner is to obtain, supply and maintain documentation on board as follows:

- (a) A survey file comprising reports of structural surveys, thickness measurement and executive hull summary in accordance with IMO Resolution A.744(18).
- (b) Supporting documentation consisting of:
 - (i) Main structural plans of cargo tanks and ballast tanks.
 - (ii) Previous repair history.
 - (iii) Cargo and ballast history.
 - ~~(iv) Reports on structural defects/deterioration in general.~~
 - ~~(v) Reports on leakage in bulkheads and piping systems.~~
 - ~~(vi) Condition of corrosion prevention system, if any.~~
 - (iv) Records of inspections by ship's personnel with reference to structural deterioration in general, leakages in bulkheads and piping and the condition of the corrosion prevention systems, if any.
 - ~~(vii)(v) Extent of use of inert gas plant and tank cleaning procedures when forming part of approved corrosion control system.~~
 - ~~(viii)(vi) Information Any other information that may help to identify critical structural areas and/or suspect areas requiring inspection.~~
 - ~~(ix)(vii) Survey Programme as required by 8.3.~~

The complete documentation in 8.2.1 is to be readily available for examination by the Surveyor and should be used as a basis for survey.

8.3 Planning for survey

8.3.2 Prior to the development of the Survey Programme a Survey Planning Questionnaire is to be completed and submitted by the Owner, see 1.6.9 1.6.11.

Effective date 1 July 2008

8.7 Thickness measurement

8.7.1 The minimum requirements for thickness measurements are given in Table 3.8.3, see also 5.6.

■ Section 9 Ships for liquefied gases

9.2 Annual Surveys – Basic requirements

9.2.16 The survey is to consist of an examination for the purpose of ensuring, as far as practicable, that the hull and piping are maintained in a satisfactory condition.

- (a) The examination of the hull and piping is to include the following:
- hull plating and closing appliances as far as can be seen
 - watertight penetrations as far as practicable
 - weather decks
 - flame screens on vents to all bunker tanks
 - bunker and vent piping systems
- (b) The examination of the cargo pump rooms and compressor rooms and, as far as practicable, pipe tunnels if fitted is to include the following:
- all pump room and compressor room bulkheads for signs of leakage or fractures and, in particular, the sealing arrangements of all penetrations of pump room and compressor room bulkheads
 - condition of all piping systems (for cargo piping systems, see 9.2.7).

9.2.17 The Surveyor is to carry out an examination and thickness measurement of structure identified at the previous Special Survey or Intermediate Survey as having substantial corrosion, as defined in 1.5. The extent of thickness measurements is to be increased in accordance with Table 3.9.4 to determine the full extent of the corrosion pattern. The survey will not be considered complete until these additional thickness measurements have been carried out.

9.6 Intermediate Surveys

Effective date 1 October 2007

~~9.6.3 At the first Intermediate Survey after initial commissioning of the ship, the following examinations are to be carried out:~~

- ~~(a) Cargo tanks, other than independent tanks Types A and C, are to be examined internally. Insulation, where fitted externally, is to be generally examined.~~
- ~~(b) Particular attention is to be given to tower structures and other attachments within the tanks, tank supports and securing arrangements.~~

Effective date 1 July 2008

9.6.3 For ships over 5 years of age and up to 10 years of age, an overall survey of representative ballast tanks is to be carried out. Where a hard protective coating is found to be in POOR condition, as defined in 1.5, where a soft coating has been applied or where a protective coating was not applied from the time of construction, the survey is to be extended to other ballast tanks of the same type.

9.6.4 For ships over 10 years of age, an overall survey of all ballast tanks is to be carried out.

- (a) If such examinations reveal no visible structural defects, the examination may be limited to verification that the corrosion prevention system remains in GOOD or FAIR condition.
- (b) For ballast tanks, where a hard protective coating is found to be in POOR condition, as defined in 1.5, where a soft coating has been applied or where a protective coating was not applied from the time of construction the following requirements are applicable:
- (i) For ballast tanks, other than independent double bottom tanks, maintenance of class will be subject to the spaces in question being examined and gauged as necessary at Annual Surveys.
 - (ii) For independent double bottom ballast tanks, maintenance of class may be subject to the spaces in question being examined and gauged as necessary at Annual Surveys

9.6.5 The minimum requirements for Close-up Survey are given in Table 3.9.1.

Table 3.9.1 Close-up Survey – Ships for liquefied gases

Special Survey I (Ships 5 years old)	Special Survey II (Ships 10 years old)	Special Survey III (Ships 15 years old)	Special Survey IV (Ships 20 years old and over)
(1) One transverse web frame in 2 representative water ballast tanks of each type, see Notes 1 and 2 (2) One transverse bulkhead in a ballast tank, see Note 4	(1) One transverse web frame in each water ballast tank, see Notes 1 and 2 (2) Forward and aft transverse bulkhead in one side ballast tank, see Note 3	(1) All web frame rings in all ballast tanks, see Notes 1 and 2 (2) All transverse bulkheads – in all ballast tanks, see Note 3 (3) As considered necessary by the Surveyor, see Note 5	(1) All web frame rings in all ballast tanks, see Notes 1 and 2 (2) All transverse bulkheads – in all ballast tanks, see Note 3 (3) As considered necessary by the Surveyor, see Note 5
NOTES 1. Ballast tanks includes topside, double hull side, double bottom, hopper side, or any combined arrangement of the aforementioned, and peak tanks where fitted. 2. Complete transverse web frame including adjacent structural members. 3. Transverse bulkhead complete, including girder system and adjacent members, and adjacent longitudinal bulkhead structure. 4. Transverse bulkhead lower part including girder system and adjacent structural members. 5. Additional complete transverse web frame ring.			

Table 3.9.1 Ships for liquefied gases - Intermediate Surveys

Ships between 10 and 15 years old	Ships greater than 15 years old
(1) Close-up survey of all web frames and both transverse bulkheads in a representative ballast tank, see Note 2 and 3. (2) Close-up survey of the upper part of one web frame in one other representative ballast tank. (3) Close-up survey of one transverse bulkhead in one other representative ballast tank, see Note 3.	(1) Close-up survey of all web frames and both transverse bulkheads in a two representative ballast tanks, see Notes 2 and 3.
NOTES 1. Ballast tanks include topside, double hull side, double bottom, hopper side, or any combined arrangement of the aforementioned, and peak tanks where fitted. 2. Complete transverse web frame including adjacent structural members. 3. Transverse bulkhead complete, including girder system and adjacent structural members and adjacent longitudinal bulkhead structure. 4. For areas in tanks where coatings are found to be in GOOD condition, as defined in 1.5, the extent of Close-up Survey may be specially considered. 5. The Surveyor may extend the Close-up Survey, if deemed necessary, taking into account the maintenance of the tanks under survey, the condition of the corrosion prevention system, the structural arrangements or details which have suffered defects in similar spaces or on similar ships and tanks having structures approved with reduced scantlings. 6. For ships having independent cargo tanks of Type C, with a midship section similar to that of a general cargo ship, the extent of Close-up Survey may be specially considered.	

9.12 Close-up Survey

9.12.1 The minimum requirements for Close-up Survey are given in Table 3.9.1 3.9.2.

9.12.2 The Surveyor may extend the Close-up Survey, if deemed necessary, taking into account the maintenance of the tanks under survey, the condition of the corrosion prevention system and the structural arrangements or details which have suffered defects in similar spaces or on similar ships and tanks having structures approved with reduced scantlings.

Part 1, Chapter 3

Table 3.9.2 Close-up Survey – Ships for liquifies gases

Special Survey I (Ships 5 years old)	Special Survey II (Ships 10 years old)	Special Survey III (Ships 15 years old)	Special Survey IV (Ships 20 years old and over)
(1) One web frame in: (a) a topside ballast tank (b) a hopper side ballast tank (c) a double hull side ballast tank See Note 2. (2) One transverse bulkhead in a ballast tank, see Note 4.	(1) All web frames in either a topside ballast tank or a double hull side ballast tank, see Notes 2 and 5. (2) One web frame in each remaining ballast tank, see Note 2. (3) One transverse bulkhead in each ballast tank, see Note 3.	(1) All web frames in all ballast tanks, see Note 2. (2) All transverse bulkheads in all ballast tanks, see Note 3.	(1) All web frames in all ballast tanks, see Note 2. (2) All transverse bulkheads in all ballast tanks, see Note 3.

NOTES

- Ballast tanks include topside, double hull side, double bottom, hopper side, or any combined arrangement of the aforementioned, and peak tanks where fitted.
- Complete transverse web frame ring including adjacent structural members.
- Transverse bulkhead complete, including girder system and adjacent structural members and adjacent longitudinal bulkhead structure.
- Transverse bulkhead lower part including girder system and adjacent structural members.
- If topside tanks and double hull side tanks are not fitted, then another ballast tank is to be selected.
- For ships having independent cargo tanks of Type C, with a midship section similar to that of a general cargo ship, the extent of Close-up Survey may be specially considered.

9.13 Thickness measurement

9.13.1 The minimum requirements for thickness measurement are given in Table 3.9.2 3.9.3.

9.13.2 In areas where substantial corrosion, as defined in 1.5, has been noted, then additional measurements are to be carried out, as applicable, in accordance with the appropriate Tables in Section 6 or 7 (depending on the structural configuration of the ship) Table 3.9.4 to determine the full extent of the corrosion pattern. The survey will not be considered complete until these additional thickness measurements have been carried out.

Table 3.9.2 3.9.3 Thickness measurement – Ships for liquefied gases

Table 3.9.4 Thickness measurement – Ships for liquefied gases – Structural areas with substantial corrosion

Structural member	Extent of measurement	Pattern of measurement
Plating	Suspect area and adjacent plates	5 point pattern over 1 m ² of plating
Stiffeners	Suspect area	3 measurements each in line across web and flange

Part 4, Chapter 4

Offshore Supply Ships

Effective date 1 January 2008

■ ~~Section 8~~ ~~Engine exhaust outlets~~

8.1 ~~Location~~

~~8.1.1 Engine exhaust outlets are to be located as high as is practicable above the deck and are to be fitted with spark arresters.~~

■ ~~Section 9~~ 8 **Transport and handling of limited amounts of hazardous and noxious liquid substances in bulk**

9.1 ~~General~~

~~9.1.1 Attention is drawn to IMO Resolution A.673 (16) Guidelines for the Transport and Handling of Hazardous and Noxious Liquid Substances in Bulk in Offshore Support Vessels, which includes reference to:~~

- ~~▲ Stability, cargo tank location and ship design, and~~
- ~~▲ IMO Resolution A.460 (12) The Guidelines for the Design and Construction of Offshore Supply Vessels.~~

~~9.1.2 It is possible that the National Authority will require compliance with these IMO Guidelines and future amendments thereto, if it is intended to carry limited amounts of hazardous and noxious liquid cargoes in bulk.~~

8.1 **General**

8.1.1 The requirements of this section are, in general, to be complied with unless they are waived or substituted by requirements mandated by the Administration.

8.1.2 This section applies to the arrangement and scantling of seagoing ships as defined in 1.1 and intended for the carriage of:

- the aggregate quantity of bulk liquids identified in 8.1.3 that is carried is any amount not exceeding a maximum which is the lesser of 800 m³ or a volume in cubic metres equal to 40 per cent of the vessel's deadweight calculated at a cargo density of 1,0.

8.1.3 Products which may be carried are:

- (a) hazardous and noxious liquids listed in Table 4.8.1 and those other products which may be assigned to Table 4.8.1 based on the following criteria:
 - products which for safety reasons may be assigned for carriage on a type 3 ship as defined by the *Rules and Regulations for the Construction and Classification of Ships for the Carriage of Liquid Chemicals in Bulk* (hereinafter referred to as Rules for Chemical Ships) and which are not required to meet the requirements for toxic products in 15.12 of the Rules for Chemical Ships;
 - noxious liquid substances which would be permitted for carriage on a type 3 ship;
- (b) flammable liquids (liquids having a flashpoint not exceeding 600°C (closed cup test)).

8.1.4 Carriage of products not listed in Table 4.8.1 should only be undertaken in accordance with suitable preliminary carriage conditions and the limitation referred to in 8.1.3.

8.1.5 Additives which are considered to fall outside the scope of products in 8.1.3 may be carried in limited amounts. The aggregate amount of such additives which may be transported should not exceed 10 per cent of the vessel's maximum authorized quantity of products subject to this Section. An individual tank should contain not more than 10 m³ of these additives. The discharge of these additives into the sea from offshore support vessels is prohibited.

8.1.6 Ships complying with the requirements of this section will be eligible for the special feature notation **HNLS**.

Part 4, Chapter 4

Table 4.8.1 Table of permitted cargoes

Cargo	Flammability	Hazard
Oil-based mud containing mixtures of products listed in chapters 17 and 18 of the IBC Code and the MEPC.2/Circular and permitted to be carried under paragraph 8.1	No	-
Water-based mud containing mixtures of products listed in chapters 17 and 18 of the IBC Code and the MEPC.2/Circular and permitted to be carried under paragraph 8.1	No	-
Drilling Brines, including: Sodium Chloride Solution Calcium Bromide Solution Calcium Chloride Solution	No No No No	P P P
Calcium nitrate/Magnesium nitrate/Potassium chloride solution	No	P
Calcium Nitrate Solution (50% or less)	No	P
Drilling brines (containing zinc salts)	No	P
Potassium Formate Solution	No	P
Potassium Chloride Solution	No	S/P
Ethyl Alcohol	Yes	P
Ethylene Glycol	No	P
Ethylene Glycol monoalkyl ether	Yes	S/P
Methyl Alcohol	Yes	P
Acetic acid	Yes	S/P
Formic acid	Yes	S/P
Hydrochloric Acid	No	S/P
Hydrochloric-hydrofluoric mixtures containing 3% or less Hydrofluoric acid	No	S/P
Sodium Silicate Solution	No	P
Sulphuric Acid	No	S/P
Triethylene Glycol	No	P
Toluene	Yes	P
Xylene	Yes	P
Liquid carbon dioxide	No	S
Liquid nitrogen	No	S
Noxious liquid, NF, (7) n.o.s. (trade name ..., contains ...) ST3, Cat. Y	No	P
Noxious liquid, F, (8) n.o.s. (trade name ..., contains ...) ST3, Cat. Y	Yes	P
Noxious liquid, NF, (9) n.o.s. (trade name ..., contains ...) ST3, Cat. Z	No	P
Noxious liquid, F, (10) n.o.s. (trade name ..., contains ...) ST3, Cat. Z	Yes	P
Noxious liquid, (11) n.o.s. (trade name ..., contains ...) Cat. Z	No	P
Non-noxious liquid, (12) n.o.s. (trade name ..., contains ...) Cat. OS	No	P

8.2 Definitions

8.2.1 Cargo area is that part of the offshore supply ship where cargo and cargo vapours are likely to be present and includes cargo tanks, cargo pump-rooms, hold spaces in which independent tanks are located, cofferdams surrounding integral tanks and the following deck areas:

- within 3 m of a cargo tank installed on deck;
- within 3 m of a cargo tank outlet in case of independent tanks installed below deck;
- within 3 m of a cargo tank outlet in case of integral tanks installed below deck and separated from the weather deck by a cofferdam;
- the deck area above an integral tank without an overlaying cofferdam plus the deck area extending transversely and longitudinally for a distance of 3 m beyond each side of the tank;
- within 3 m of any cargo liquid or vapour pipe, flange, cargo valve, gas or vapour outlet, or entrance or ventilation opening to a cargo pump-room.

8.2.2 Deadweight means the difference in metric tons between the displacement of an offshore support vessel in water of a density of 1,025 at the load waterline corresponding to the assigned summer freeboard and the lightweight of the ship.

8.2.3 Lightweight means the displacement of an offshore support vessel in metric tons without cargo, fuel, lubricating oil, ballast water, fresh water and feed water in tanks, consumable stores, and passengers and crew and their effects.

8.2.4 Hazardous substance is any substance either listed in chapter 17 of the Rules for Chemical Ships or having a hazard more severe than one of the minimum hazard criteria given in criteria for hazard evaluation of bulk chemicals as approved by the Organization.

8.2.5 Pollution hazard only substance means a substance having an entry only of "P" in column d in chapter 17 of the Rules for Chemical Ships.

8.2.6 Safety hazard substance means a substance having an entry of "S" or "S/P" in column d in chapter 17 of the Rules for Chemical Ships.

8.2.7 Flammable liquid is any liquid having a flashpoint not exceeding 60°C (closed cup test).

8.3 Cargo tank location

8.3.1 Cargo tanks should be located at least 760 mm measured inboard from the side of the vessel perpendicular to the centreline at the level of the summer load waterline.

8.4 Cargo segregation

8.4.1 Tanks containing cargo or residues of cargo should be segregated from machinery spaces, propeller shaft tunnels, if fitted, dry cargo spaces, accommodation and service spaces and from drinking water and stores for human consumption, by means of a cofferdam, void space, cargo pump-room, empty tank, oil fuel tank, or other similar space. On-deck stowage of independent tanks or installing independent tanks in otherwise empty hold spaces should be considered as satisfying this requirement.

8.4.2 Cargoes which react in a hazardous manner with other cargoes or oil fuels should:

- be segregated from such other cargoes or oil fuels by means of a cofferdam, void space, cargo pump-room, empty tank, or tank containing a mutually compatible cargo;
- have separate pumping and piping systems which should not pass through other cargo tanks containing such cargoes, unless encased in a tunnel; and
- have separate tank venting systems.

8.4.3 Cargo piping should not pass through any accommodation, service or machinery space other than cargo pump-rooms or pump-rooms.

8.4.4 Pumps, ballast lines, vent lines and other similar equipment serving permanent ballast tanks should be independent of similar equipment serving cargo tanks.

8.4.5 Bilge pumping arrangements for cargo pump-rooms or for hold spaces in which independent cargo tanks are installed should be situated entirely within the cargo area.

8.5 Segregation requirements for integral tanks

8.5.1 Where not bounded by bottom shell plating, fuel oil tanks, a cargo pump-room or a pump-room, the cargo tanks should be surrounded by cofferdams. Tanks for other purposes (except fresh water and lubricating oils) may be accepted as cofferdams for these tanks.

8.5.2 For access to all spaces, the minimum spacing between cargo tank boundaries and adjacent ship's structures should be 600 mm.

8.5.3 Cargo tanks may extend to the deck plating, provided dry cargo is not handled in that area. Where dry cargo is handled on the deck area above a cargo tank, the cargo tank may not extend to the deck plating unless a continuous, permanent deck sheathing of wood or other suitable material of appropriate thickness and construction is fitted.

8.5.4 Cargoes subject to the scope of products in 8.1.2 and 8.1.3 should not be carried in either the fore or aft peak tanks.

8.5.5 For pollution hazard only substances having a flashpoint exceeding 60°C (closed cup test) the arrangements referred to in 8.4.1 and 8.4.3 need not be applied provided that the segregation requirements for accommodation spaces, drinking water and stores for human consumption are satisfied. Additionally, 8.5.1 and 8.5.2 need not be applied.

8.6 Accommodation, service and machinery spaces and control stations

8.6.1 Accommodation or service spaces, or control stations should not be located within the cargo area.

8.6.2 Unless they are spaced at least 7 m away from the cargo area containing flammable products, entrances, air inlets and openings to accommodation, service and machinery spaces and control stations should not face the cargo area. Doors to spaces not having access to accommodation, service and machinery spaces and control stations, such as cargo control stations and store-rooms, may be permitted within the 7 m zone specified above, provided the boundaries of the spaces are insulated to A-60 standard and each case will be specially considered. When arranged within the 7 m zone specified above, windows and sidescuttles facing the cargo area should be of a fixed type. Such sidescuttles in the first tier on the maindeck should be fitted with inside covers of steel or equivalent material.

8.6.3 In order to guard against the danger of hazardous vapours, due consideration should be given to the location of air intakes and openings into accommodation, service and machinery spaces and control stations in relation to cargo piping and cargo vent systems.

8.6.4 For pollution hazard only substances having a flashpoint exceeding 60°C, the arrangements referred to in 8.6.1 to 8.6.3 may be waived.

8.7 Access to spaces in the cargo areas

8.7.1 Access to spaces within the cargo area should meet the requirements of 3.4 of the Rules for Chemical Ships.

8.8 Cargo tank construction

8.8.1 Cargo tanks are to be as required by the Rules for Gas Ships or Rules for Chemicals as applicable and for the intended cargo.

Part 4, Chapter 4

8.8.2 Instead of the use of permanently attached deck-tanks, portable tanks meeting the requirements of the International Dangerous Goods (IMDG) Code or other portable tanks specially approved may be used for cargoes indicated in 8.1.3, provided that the tanks are properly located and secured to the vessel.

8.8.3 Except for the tank connections to cargo pump-rooms, all tank openings and connections to the tank should terminate above the weather deck and should be located in the tops of the tanks. Where cofferdams are provided over integral tanks, small trunks may be used to penetrate the cofferdam.

8.8.4 The greater of the following design pressures (gauge) should be used for determining scantlings of independent pressure tanks:

- 0.07 MPa;
- the vapour pressure of the cargo at 45°C;
- the vapour pressure of the cargo at 15°C above the temperature at which it is normally carried; or
- the pressure which occurs in the tank during the loading or unloading.

The design of the tanks should comply with acceptable standards taking into account the carriage temperature and relative density of cargo. Due consideration should also be given to dynamic forces and any vacuum pressure to which the tanks may be subjected.

8.8.5 Integral and independent gravity tanks should be constructed and tested according to acceptable standards taking into account the carriage temperature and relative density of cargo.

8.8.6 For pollution hazard only substances having a flashpoint exceeding 60°C, the requirements of 8.8.3 need not be applied.

8.9 Materials of construction

8.9.1 Materials of construction for tanks, piping, fittings and pumps should be in accordance with chapter 6 of the Rules for Chemical Ships, or the Rules for Gas Ships, as applicable.

8.10 Cargo tank vent systems

8.10.1 Independent pressure tanks should be fitted with pressure relief devices that are so designed as to direct the discharge away from personnel and that have a set pressure and capacity which is in accordance with acceptable standards taking into account the design pressure referred to in 8.8.4.

8.10.2 Cargo tank vent systems of integral or independent gravity tanks should meet the requirements of the Rules for Chemical Ships, except that the height specified in 8.3.4 of those Rules may be reduced to 2 m.

8.10.3 The location of cargo tank vent outlets for independent pressure tanks and for cargo tanks used to carry pollution hazard only substances with a flashpoint exceeding 60°C (closed cup test) should be to the satisfaction of LR.

8.10.4 Cargo tank vent systems of portable tanks allowed under 8.8.2 should be to the satisfaction of LR, taking into account the requirements of 8.10.

8.11 Cargo transfer

8.11.1 The cargo transfer system should comply with the requirements of chapter 5 of the Rules for Chemical Ships, or the Rules for Gas Ships, when considered applicable and practical, taking into account existing industry standards and practices.

8.11.2 The remote shutdown devices for all cargo pumps and similar equipment, required by 5.6.1.3 of the Rules for Chemical Ships, should be capable of being activated from a dedicated cargo control location which is manned at the time of cargo transfer and from at least one other location outside the cargo area and at a safe distance from it.

8.12 Electrical installations

8.12.1 Electrical installations should meet the requirements of chapter 10 of the Rules for Chemical Ships.

8.13 Acid spill protection

8.13.1 Floors or decks under acid storage tanks and pumps and piping for acid should have a lining or coating of corrosion-resistant material extending up to a minimum height of 500 mm on the bounding bulkheads or coamings. Hatches or other openings in such floors or decks should be raised to a minimum height of 500 mm; however, where this height is not practicable a lesser height may be required.

8.13.2 Flanges or other detachable pipe connections should be covered by spray shields.

8.13.3 Portable shield covers for connecting the flanges of the loading manifold should be provided. Drip trays of corrosion-resistant material should be provided under loading manifolds for acids.

8.13.4 Spaces for acid storage tanks and acid pumping and piping should be provided with drainage arrangements of corrosion-resistant materials.

8.13.5 Deck spills should be kept away from accommodation and service areas by means of a permanent coaming of suitable height and extension.

8.14 Ventilation of spaces in the cargo area

8.14.1 The requirements of chapter 12 of the International Rules for Chemical Ships are to be applied. Consideration will be given to requests for relaxation of requirements concerning the distance required in 12.1.5 of the Rules for Chemical Ships.

8.15 Vapour detection

8.15.1 Vapour detection for the cargoes carried should be provided in accordance with the requirements contained in the Rules for Chemical Ships.

8.15.2 Enclosed and semi-enclosed spaces containing installations for acid should be fitted with fixed vapour detection and alarm systems which provide visual and audible indication. The vapour detection systems should be capable of detecting hydrogen except that, in the case where only hydrochloric acid is carried, a hydrogen chloride vapour detection system should be provided.

8.15.3 At least two portable instruments for detecting flammable vapour concentrations should be provided when cargoes subject to the requirements of this section (see 8.1.3) with a flashpoint not exceeding 60°C (closed-cup test) are carried.

8.15.4 At least two portable instruments suitable for measuring the concentration of oxygen in atmospheric air should be provided.

8.16 Special requirements

8.16.1 The special requirements for the cargo as referred to in chapter 17 of the Rules for Chemical Ships or chapter 19 of the Rules for Gas Ships are applicable; however, the requirement in 15.19.6 of the Rules for Chemical Ships for a visual and audible high-level alarm may be waived taking into account the cargo carriage arrangements and cargo loading procedures and each case will be specially considered.

8.17 Special requirements for the carriage of liquefied gases

8.17.1 Each enclosed space used for handling or storage of a liquefied gas should be fitted with a sensor continuously monitoring the oxygen content of the space and an alarm indicating low oxygen concentration. For semi-enclosed spaces portable equipment may also be acceptable.

8.17.2 Drip trays resistant to cryogenic temperatures should be provided at manifolds transferring liquefied gases or at other flanged connections in the liquefied gas system.

8.17.3 For the carriage of liquid nitrogen the requirements of 17.19 of Rules for Gas Ships are to be applied.

8.17.4 The construction of cargo tanks and cargo piping systems for liquefied nitrogen and liquid carbon dioxide should be to the satisfaction of LR.

8.17.5 Emergency shutoff valves should be provided in liquid outlet lines from each liquefied gas tank. The controls for the emergency shutoff valves should meet the requirements given in 8.10.2 for remote shutdown devices.

8.18 Gauging and level detection

8.18.1 Each cargo tank should have a level gauging system in accordance with the Rules for Gas Ships or Rules for Chemical Ships as applicable.

8.19 Emergency remote shutdown

8.19.1 In the case of transfer operations involving pressures in excess of 5 MPa, arrangements for emergency depressurizing and disconnection of the transfer hose should be provided. The controls for activating emergency depressurization and disconnection of the transfer hose should meet the requirements given in 8.11.2 for remote shutdown devices.

8.20 Pollution requirements

8.20.1 Each ship certified to carry noxious liquid substances should be provided with a Cargo Record Book, a Procedure and Arrangements Manual and a Shipboard Marine Emergency Plan developed for the ship in accordance with Annex II to MARPOL 73/78 and approved.

8.20.2 Discharge into the sea of residues of noxious liquid substances permitted for the carriage in Ship Type 3, or products listed in 8.1.2 or ballast water, tank washings, or other residues or mixtures containing such substances, is prohibited. Any discharges of residues and mixtures containing noxious liquid substances should be to reception facilities in port. As a consequence of this prohibition, the requirements for efficient stripping and underwater discharge arrangements in MARPOL 73/78, Annex II may be waived.

8.20.3 In the case of cargoes regulated by MARPOL 73/78, Annex I, the requirements of that Annex should apply as appropriate.

8.21 Decontamination showers and eyewashes

8.21.1 Except in the case of pollution hazard only substances, a suitably marked decontamination shower and eyewash should be available on deck in a convenient location. The shower and eyewash should be operable in all ambient conditions.

8.22 Protective and safety equipment

8.22.1 Protective and safety equipment should be kept on board in suitable locations as required by chapter 14 of the Rules for Gas Ships or Rules for Chemical Ships for products to be carried.

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